

What is claimed is:

1. An ink jet printer for recording a desired image on a recording medium by ejecting ink which includes a cationic polymerization component and which is curable when irradiated with light to the recording medium, the printer comprising:

a recording head for ejecting the ink to the recording medium;

a light irradiation section for irradiating the light to the ink placed on the recording medium;

a humidity detecting section for detecting humidity around the ink placed on the recording medium; and

a controller for controlling irradiation of the light to be irradiated from the light irradiation section on the basis of detected humidity detected by the humidity detecting section.

2. The printer of claim 1, wherein the controller controls the irradiation of the light to be irradiated from the light irradiation section on the basis of a relationship between the detected humidity detected by the humidity detecting section, and desired irradiation and desired irradiation time of the light corresponding to the detected humidity.

3. The printer of claim 1, wherein the controller

has a conversion table showing a relationship between the detected humidity detected by the humidity detecting section, and desired irradiation and desired irradiation time of the light corresponding to the detected humidity.

4. The printer of claim 2, wherein the controller has a conversion table showing a relationship between the detected humidity detected by the humidity detecting section, and desired irradiation and desired irradiation time of the light corresponding to the detected humidity.

5. The printer of claim 3, wherein the controller comprises a central processing unit, and performs processing for calculating the desired irradiation and the desired irradiation time corresponding to the detected humidity by using the conversion table with the central processing unit.

6. The printer of claim 5, wherein the controller determines whether the desired irradiation calculated is not lower than maximum limited irradiation or not by performing the processing for calculating the desired irradiation and the desired irradiation time corresponding to the detected humidity by using the conversion table.

7. The printer of claim 6, wherein the maximum

limited irradiation is any lower irradiation of irradiation determined on the basis of electricity consumption of the light irradiation section and irradiation determined on the basis of life span of the light irradiation section within irradiation of UV radiation capable of being irradiated to the recording medium without shrinking and distorting the recording medium.

8. The printer of claim 6, wherein the conversion table is determined on the basis of sensitivity of the ink to the light.

9. The printer of claim 6, wherein the controller determines a plurality of maximum limited irradiation on the basis of a type of the recording medium.

10. The printer of claim 8, wherein the controller changes the conversion table according to a type of the ink.

11. The printer of claim 9, wherein the controller selects any one maximum limited irradiation among the plurality of maximum limited irradiation on the basis of the type of the recording medium.

12. The printer of claim 6, wherein the central processing unit of the controller informs of abnormality of

at least one of humidity environment and a light irradiation condition when determining that the desired irradiation calculated based on the detected humidity is not lower than the maximum limited irradiation.

13. The printer of claim 12, further comprising a display section for displaying a screen for informing of the abnormality of at least one of humidity environment and the light irradiation condition according to an instruction of the central processing unit.

14. The printer of claim 6, wherein the central processing unit of the controller raises irradiation of the light to be irradiated from the light irradiation section to the desired irradiation, and determines the desired irradiation time when determining that the desired irradiation calculated based on the detected humidity is lower than the maximum limited irradiation.

15. The printer of claim 4, wherein the light irradiation section irradiates the light of the desired irradiation for the desired irradiation time.

16. The printer of claim 5, wherein the light irradiation section irradiates the light of the desired irradiation for the desired irradiation time.

17. The printer of claim 6, wherein the light irradiation section irradiates the light of the desired irradiation for the desired irradiation time.

18. The printer of claim 1, wherein the light irradiation section irradiates UV radiation as the light.

19. The printer of claim 1, wherein the light irradiation section takes two steps to irradiate the light.

20. The printer of claim 19, wherein the light irradiation section carries a first light irradiation after the ink is placed on the recording medium and carries a second light irradiation after the first light irradiation.

21. The printer of claim 20, wherein the first light irradiation is carried in 0.001 to 2.0 seconds after the ink is placed on the recording medium, more preferably 0.001 to 1.0 second.

22. The printer of claim 18, wherein the light irradiation section irradiates the light having irradiation that maximum irradiation of an effective wavelength range in curing the ink is 0.1 to 50 mW/cm².

23. The printer of claim 18, wherein the light irradiation section irradiates the light having irradiation that maximum irradiation of an effective wavelength range in curing the ink is 51 to 3000 mW/cm².

24. The printer of claim 1, wherein the humidity detecting section is provided in a distance capable of detecting the humidity around the ink from the recording head in a carrying direction of the recording medium above the recording medium.

25. The printer of claim 1, further comprising a plurality of humidity detecting sections for detecting humidity around the ink placed on the recording medium.

26. The printer of claim 1, further comprising:
a carrying section for carrying the recording medium in a predetermined carrying direction; and

a dehumidifying section for dehumidifying a portion around the ink placed on the recording medium by sending dry air to the portion around the ink placed on the recording medium.

27. The printer of claim 26, wherein the controller determines whether the detected humidity detected by the humidity detecting section is not lower than predetermined

humidity on the basis of the detected humidity, and makes the dehumidifying section operate when determining that the detected humidity is not lower than the predetermined humidity.

28. The printer of claim 26, wherein the dehumidifying section sends the dry air in substantially all width of the recording medium.

29. The printer of claim 26, wherein the dehumidifying section comprises an electronic cooling device, and sends the dry air cooled by the electronic cooling device.

30. The printer of claim 26, wherein the dehumidifying section is provided in a distance capable of dehumidifying the portion around the ink from the light irradiation section in the predetermined carrying direction of the recording medium.

31. An image recording method for recording a desired image on a recording medium by ejecting ink which includes a cationic polymerization component and which is curable when irradiated with light to the recording medium, the method comprising:

ejecting the ink to the recording medium;

irradiating the light to the ink placed on the recording medium;

detecting humidity around the ink placed on the recording medium; and

controlling irradiation of the light to be irradiated on the basis of the humidity detected.

32. The method of claim 31, further comprising:
carrying the recording medium in a predetermined carrying direction; and

dehumidifying a portion around the ink placed on the recording medium by sending dry air to the portion around the ink placed on the recording medium.